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A

SYNOPSIS

OF

CHEMISTRY,

1

ARRANGED ALPHABETICALLY:

COMPREHENDING THE NAMES, SYNONIMA, AND DEFINITIONS, IN THAT SCIENCE.

By JAMES CUTBUSH, P. S. U. S. A.
Member of the American Philosophical Society, late President of the Columbian chemical society, &c. and acting Professor of Chemistry, and mineralogy, in the United States' Military Academy.

NEW-YORK,
Published by ELDAD LEWIS,
January,
1821.

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SOUTHERN DISTRICT OF NEW-YORK, ss.

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"A synopsis of chemistry arrange dalphabetically, comprehending the names, synonima, and definitions, in that science, by JAMES CUTBUSH, P. S. U. S. A. Member of the American philosophical society, late Presiden of the Chemical society, &c. and acting Professor of chemistry and mineralogy, in the United States' Military Academy."

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G. L. THOMPSON.
Clerk of the southern district of New-York.

PREFACE.

The following pages, which embrace the names, terms, definitions, and synonimas, used in chemistry, arranged in alphabetical order, were hastily written for the chemical department.

It will be seen, that my intention was to include, in a small compass, the nomenclature of the science. As a book of immediate reference, and such only, it is to be considered. To the *beginner*, therefore, it cannot fail to recommend itself.

To have gone fully into the subject, under the various appropriate heads, would have necessarily enlarged the work; my object was to render the language of chemistry familiar to the student, without presenting to him a system of chemistry. I am sensible, nevertheless, that the subject is capable of enlargement, by the addition of other, and by the improvement of the present articles.

It may be proper to remark, that this work, in its present form, was put to press at the instance of a number of gentlemen, who are interested in the study.

United States' Military Academy, Nov. 21, 1820

A
CHEMICAL
SYNOPSIS.

ABSORPTION. When a gas comes in contact with water, as carbonic acid gas, muriatic acid gas, ammoniacal gas, &c. and combines with it, absorption is said to take place. The water becomes acid or alkaline.

Abstraction. A fluid distilled from any substance.

Acetated ceruse. Acetate of lead. Sugar of lead.

Acetates. Salts formed by the union of acetic acid, called also radical vinegar, with alkaline, earthy, and metallic bases.

Acetic acid. Radical vinegar.

Acetites. Salts formed by the union of acetous acid, or distilled vinegar, with different bases. Acetites in the old, are considered the same as acetates, in the new nomenclature.

Acetous acid. Distilled vinegar. Acetic acid, diluted.

Acetous fermentation. That fermentation, which produces vinegar. The acetous generally follows the vinous fermentation; hence, wine, cyder, beer, &c. become vinegar.

Acid. The word *acid*, synonimous with *sour*, is used to express a certain set of bodies, which have a sour taste. They are characterized by the following properties:

1. Applied to the tongue, they impart a sour taste.

2. They change vegetable blues, as litmus, or litmus paper, to red. When certain colours have been previously converted to green, by alkalies, the acids restore them to their original colour.

3. They combine with water in indefinite proportions.

4. They unite with alkalies, earths, and mos of the metallic oxydes, and form a class of bo dies called salts. Every acid does not posse all these properties. It may be remarked, ho ever, that they have a sufficient number of the to enable us to distinguish them from all oth bodies. With respect to the classification acids, they have been divided, by some, into f classes; as acids, whose bases are united w oxygen and hydrogen; with oxygen only; w hydrogen only; of irregular constitution; those in which oxygen and hydrogen are pre

Acidifiable. Capable of producing an Sulphur and phosphorus are of this kind.

Acidule. If an acid exists in a vegetabl as supertartrate of potash, in a state of s turation, the term *acidule* is applied to i

Adopter. A vessel fixed between a ret receiver.

Ærated alkaline water. Soda water. holding carbonic acid and alkali, or bonated alkali, in solution.

Ærated water. Water united wit acid gas.

Æriform fluids. Gaseous fluids.

Ærial acid. Carbonic acid. Fixed air.

Affinity, chemical A property, which different kinds of matter possess, of uniting with more or less force, with a substance of a different kind.

Affinity of composition. A power which unites different substances into one whole.

Affinity. single. When two bodies are united, and are separated by a third, single affinity is said to take place.

Affinity, double Four bodies, when presented to each other, as prussiate of potash, ferrocyanate of potash, and sulphate of iron, which produce prussiate of iron, and sulphate of potash, is an intsance of double affinity.

Affinity, disposing. When oil and water, for example, are mixed, no chemical union takes place; but when potash is added, they combine into one whole; the potash, therefore, is the disposing cause, and the union is effected by *disposing affinity.*

Agent. A body which promotes chemical action.

Albumen. Coagulable lymph. The white of eggs, and serum of blood, for instance, are albuminous.

Air. An invisible and elastic fluid. Gas.

Air, atmospheric. A mixture of 22 per cent of oxygen gas, and 76 per cent of azotic gas, with a small proportion of carbonic acid gas.

Alcohol. Rectified spirits of wine.

Alembic. A still, in which the vapour is usually condensed in the head, by having the refrigeratory on the top.

Alkalies. Alkalies are salifiable bases. The word, alkali, is applied to those bodies, w possess the following properties:

1. A caustic taste.
2. Volatilizable by heat.
3. Susceptible of uniting with acids, a destroying their acidity.
4. Soluble in water.
5. Capable of changing certain vege blues to green.

Alkalies unite with acids, and form a ch bodies heretofore called *neutral salts*. Th kalies proper are, Ammonia, or volatile al Potash, or vegetable alkali; and Soda, or m ral alkali. They are compound bodies, in w potassium is the base of potash, sodium the of soda, and ammonium the base of amm

The alkaline earths, which have the pr ty of giving a green colour to vegetable and of neutralizing acids, are lime, b strontian, and magnesia.

Alkalies, carbonated. Alkalies combin carbonic acid.

Alkalies, fixed. Potash and soda.

Alkali, fossil, or *mineral.* Soda. De of sodium.

Alkalies, pure. Alkalies free from acid.

Alkali, vegetable. Potash. Deutoxy assium.

Alkali, volatile. Ammonia. Spirit horn. Liquid ammonia. Water of

Allegar. Sour malt liquors. Vine

Alloys. Metals combined with eac

Alum. Supersulphate of alumina and potash; a triple salt.

Alum, burnt. Alum deprived of its water of crystallization, by exposure to heat.

Alum, cubic. If a large quantity of potash be used in the manufacture of alum, it loses its usual crystalline form, and assumes that of a cube.

Alum earth. Alumine. Alumina.

Alumine. Pure earth of clay.

Aluminous salts. Salts, the basis of which is argil, or alumine.

Aluminum. The metallic base of alumine, or earth of clay.

Alum, Roche. Alum. It took its name from the village of Roche, in Syria.

Alum, Roman. Alum of commerce. It received its name from the neighborhood of Rome, where *alum stones* were found.

Amalgam. A combination of a metal with mercury.

Ammonia. Volatile alkali. Spirit of sal ammoniac.

Ammoniacal salts. Salts formed by the union of ammonia and acids.

Ammoniacal soap. Liquid ammonia and oil.

Ammonia, carbonate of. Volatile sal ammoniac.

Ammonia, muriate of. Sal ammoniac.

Ammonia, water of. Liquid ammonia. Spirits of hartshorn.

Ammonium. The metallic basis of ammonia, discovered by Berzelius.

Amniotic acid. Obtained from the liquor of the amnios; an animal secretion.

Analysis. The separation of a substa
its constituent parts.

Animal acids. Acids furnished by th
kingdom.

Animal chemistry. That branch of ch
which treats of the character, nature, a
position of animal substances, whether
fluid.

Annealing. Tempering, by cooling gr
The annealing of glass and iron is by gr
cooling them, and of brass and copper,
ing them, and then gradually plunging
cold water.

Antimoniates. Salts formed by the u
antimonic acid, with sundry bases.

Antimonites. Salts formed with the
nous acid.

Antimonic acid. Acid of antimony.

Antimonious acid. Acid of antimony,
oxygen than the former.

Ants, acid of. Formic acid.

Antiseptics. Substances which retard p
tion.

Apparatus, chemical. All utensils mad
in a chemical labaratory, as stills, f
crucibles, retorts, &c.

Apples, acid of. Malic acid.

Aqua fortis. Nitric acid and water.
nitric acid.

Aqua regia. Nitromuriatic acid. Hy
onitric acid.

Areometer. A glass instrument, with
tions, and furnished with a bulb, by w
specific gravity, or strength of fluids,

ained. The same, in this respect, as the hydrometer.

Aroma. The odour of vegetables, arising from heir essential oil.

Arsenical hydrogen. Arseniuretted hydrogen gas.

Arsenic acid. Arsenic combined with oxygen o the maximum.

Arsenic, white. Arsenious acid. Deutoxyde of arsenic.

Arsenic, red. Realgar. Sulphuret of arsenic, or arsenic and sulphur.

Arsenic, yellow. Orpiment. Sulphuret of arsenic.

Arseniates. Salts formed by the union of arsenic acid with different bases.

Arsenites. Salts formed by the union of arsenous acid, with different bases.

Atomic theory. The theory of atoms, and of chemical equivalents.

Azote. }
Azotic gas. } Mephitic gas. Nitrogen gas.

Azotites. Compounds of nitrous oxyd and alkalies.

B

Balloon. A term given, by some, to certain chemical apparatus, of a spherical shape.

Barilla. Soda. Natron. Mineral alkali.

Barium. The base of barytes. A metal.

Barm. See Yeast.

Baroselenite. Sulphate of barytes.

Barytes. One of the earths. Heavy earth. Protoxyde of barium.

Base. A term used to express the e kali, or metal, which forms a salt with

Baths. The water, vapour, and san are intended for solution, digestion, tion, distillation, &c. In a sand bath, is transmitted gradually through the the water bath, vessels containing the s to be distilled, are placed in it, and he ed; in the vapour bath, the heat is tra through, or by means of the vapour.

Bellmetal. The compound metal use king bells, composed of three parts of and one of tin.

Benzoic acid. Acid of benzoin. Fl benzoin.

Benzoates. Salts formed with benz and different bases.

Bihydroguret of carbon. Carburetted h Hydrogen gas holding carbon in solutio carburetted hydrogen gas.

Bihydroguret of phosphorus. Hydroph gas. A phosphuretted hydrogen, dif some respects, from the common ph ted hydrogen.

Bismuth. One of the metals.

Bittern. The mother water, which after the crystallization of common sal this mother water, magnesia and Glau are sometimes made, in the eastern st

Bitter principle. A substance which a bitter taste, and which exists in hop bo, quassia, chamomile, &c.

Bitumens. Mineral tars.

Black lead. Plumbago. Carburet hite.

Bleaching. The operation of whitening various substances, either by the common agency of light, heat, water, and air; or by the use of chlorine, or of chloric acid, called also the hyperoxymuriatic acid, or by salts formed with that acid.

Bleaching salt of Tennant. Lime and oxymuriatic acid.

Blow pipe. An instrument for the examination of minerals, and for chemical purposes.

Blue vitriol. Sulphate of copper. Copper and sulphuric acid.

Boletates. Salts formed with the boletic acid, and salifiable bases.

Boletic acid. An acid produced from the juice of the boletus.

Bologna phosphorus. Calcined sulphate of barytes. Sulphate of barytes, exposed to a strong heat, has the property of absorbing light, and giving it out gradually; hence the property of the Bologna, or Bononian stone, when treated in this manner.

Boracic acid. Acid of borax. Sedative salt.

Borates. Salts formed with boracic acid, and different bases.

Borax. Boracic acid and soda. Sub-borate of soda.

Boron. The undecomposeable base of boracic acid.

Borofluoric acid. Fluoboric acid. Fluoric and boracic acids combined.

Boruretted hydrogen. A compound of boron and hydrogen.

Brass. An alloy of copper and zinc.

Bronze. An alloy of tin and copper. Bronze, and the metal for cannon, are composed of from eight to twelve parts of tin, combined with one hundred parts of copper.

Burnt hartshorn. Phosphate of lime. Lime and phosphoric acid. Bones burnt to whiteness afford phosphate of lime. When charred, they form only bone, improperly called ivory, black.

Butter of antimony. Protochloride of antimony.

Butter of arsenic. Deutochloride of arsenic.

Butter of bismuth. Chloride of bismuth.

Butter of zinc. Chloride of zinc.

C

Cadmium. A new metal.

Calamine. Calamine stone. Impure carbonate of zinc. Zinc, carbonic acid, &c.

Calcarious. A term used to express the presence of lime, as in chalk, marble, &c. in which it is combined with carbonic acid.

Calcarious acid. Carbonic acid. Fixed air. Aerial acid. Carbon and oxygen.

Calcination. The conversion of a substance to a calx, or oxyde. The term is also used to express the application of heat to various substances, to deprive them of moisture, &c. They retain their pulverent form.

Calcined magnesia. Magnesia deprived of its carbonic acid. Magnesia.

Calcium. The metal obtained from lime. The base of lime.

Calomel. Submuriate of mercury. Mercury with muriatic acid, the base in excess. Protoide of mercury, of some.

Caloric. Matter of heat.

Caloric, free. Caloric in a separate state, or not chemically combined. Radiant heat.

Caloric, latent. Caloric chemically united to a substance, forming a part of said substance.

Calorimeter. An instrument to determine the quantity of caloric contained in any substance.

Camphorates. Salts formed with camphoric acid, and a base.

Camphoric acid. Acid of camphor.

Cantharidin. The principle of cantharides.

Carbonous oxyd gas. Gaseous oxyd of carbon.

Capsules. Small saucers of clay, used for metallurgical operations.

Caput mortuum. Dead head. The substance which remains in a retort after distillation.

Carbomuriatic acid. Oxychlorocarbonic acid.

Carbon. The basis of charcoal. Diamond is considered pure carbon.

Carbonates. Salts formed by the combination of carbonic acid with a base.

Carbonic acid. Ærial acid. Fixed air. Carbon combined with oxygen, in the proportion of twenty eight parts of the former to seventy two of the latter.

Carbonic oxyd gas. Carbon and oxygen. Carbon, forty three per cent, combined with fifty seven per cent of oxygen, which is a less proportion of the latter, than in carbonic acid.

Carbonous oxyd. Charcoal. Oxyd of carbon.

Carburets. Compound substances, having carbon for a component part, as in carburet of iron, plumbago, or black lead.

Carburetted hydrogen gas, heavy. Heavy inflammable air, of some. Olefiant gas. carburetted hydrogen.

Carburetted hydrogen gas, light. Bihyd of carbon. Carburetted hydrogen. Carb hydrogen.

Caramel. The peculiar flavour produ the combustion of sugar.

Caoutchouc. Gum elastic. Indian rul

Caseic acid. An acid obtained from c

Causticity. The property which some possess, of burning, or corroding anim stances.

Caustic fossil alkali. Caustic soda. So of carbonic acid.

Caustic, liquid. Solution of potash, fre carbonic acid.

Caustic, common. Pure potash. Caust ash. Potash freed from carbonic acid.

Caustic, lunar. Silver caustic. Nitrat ver. Nitric acid and silver.

Cementation. An operation, by which the making of some kinds of steel, met either purified, or changed in their quali heat, by means of a composition calle ment.

Cerassin. The gummy principle of trag

Cerin. A principle obtained from wa luble in alcohol.

Cerium. A metal.

Cetic acid. An acid obtained from sper

Cerumen. Wax of the ear.

Ceruse. White lead. White oxyde o Carbonate of lead, of some.

Ceruse, acetated. Acetate of lead. S lead. Lead and acetic acid.

Chalk. Carbonate of lime. Lime and carbonic acid.

Chalybeate. Ferruginous. Water, for instance, holding iron in solution, is said to be a chalybeate.

Chalybeated tartar. Tartrate of potash and iron.

Charcoal. Oxyde of carbon.

Charring. The operation of forming coal.

Chemistry. That science, which treats of the action of bodies on each other, and having, for its object, the discovery of their constituent principles, the results of the various combinations, and the laws by which these combinations are affected.

Chemistry, animal. The chemistry of animal substances.

- - - *economical.* Chemistry applied to domestic, and rural economy, and to various useful purposes.

- - - *metallurgical.* Chemistry which relates to metals.

- - - *vegetable.* That branch which treats of vegetable substances.

Chlorates. Hyperoxymuriates.

Chloric acid. Hyperoxymuriatic acid.

Chlorides. Salts formed by the union of chlorine with a base. ‡

Chlorine. Oxymuriatic acid. Dephlogisticated marine acid

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‡ Antimony, arsenic, zinc, &c. take fire of their own accord. when plunged into chlorine gas. The combustible is totally altered in its appearance. and converted into a new substance, called a chloride, which is a combination of the combustible substance, and the chlorine.

Choke damp of miners. Carbonic acid gas. So called from the circumstance of its immediately extinguishing flame, and suffocating animals when immersed in it.

Chromates. Compounds formed by the union of chromic acid, and a base.

Chromic acid. Acid of chrome.

Cinnabar. Sulphuret of mercury. Mercury and sulphur.

Chloriodic acid. Chloriuret of iodine. Iodine combined with chlorine.

Chloro-carbonic acid. Phosgene gas. A compound of carbonic oxide gas, and chlorine gas.

Chloro-cyanic acid. Oxyprussic acid; a compound of cyanogen and chlorine.

Chlorous oxide. Oxide of chlorine.

Chromium. A metal.

Chrysocolla. Impure borax.

Citrates. Compounds of citric acid with a base.

Citric acid. Acid of limes, or lemons.

Clarification. The process of clearing, or rendering fluids, which are thick and turbid, free of foreign matter.

Clay, pure. Argil. Argillaceous earth. Aluminous earth. Alumine.

Coagulation. An operation, by which fluids are made clear, by the use of serum and albumen, and the application of heat.

Cobalt. A metal.

Cochenillin. Colouring matter of cochineal.

Caffein. The bitter principle of coffee.

Cohobation. When a fluid is redistilled from the same substance, in order to make it strong. [illegible] process is called cohobation.

Coke. Charred pit, or stone coal. Pit coal separated from bitumen, &c.

Columbates. Columbic acid united with different bases.

Columbic acid. Acid of columbium.

Combination. Chemical union.

Combustibles. Bodies capable of burning, or combining with oxygen, during combustion.

Combustion. A term indicative of the absorption of oxygen, by combustible bodies, from atmospheric air, or oxygen, or other gas capable of supporting combustion.

Concentration. The process by which a fluid is made stronger, and sometimes of a greater specific gravity.

Condensation. When vapour, or gas, is compressed, so as to bring the parts nearer together, by pressure, or by cold, condensation is said to take place.

Congelation. The process of freezing, or of rendering solid a fluid substance.

Copper. A metal.

Copperas. Sulphate of iron. Protosulphate of iron. Martial vitriol. Vitriol of iron. Green vitriol. Iron and sulphuric acid.

Copperas, blue. Sulphate of copper. Deutosulphate of copper. Blue vitriol. Copper and sulphuric acid.

Corrosive sublimate. Corrosive muriate of mercury. Oxymuriate of mercury, of some. Chloride of mercury. Deutochloride of mercury. Mercury and muriatic acid.

Cream of tartar. Supertartrate of potash.

Crucibles. Vessels of baked earth, or metal, in the form of an inverted cone, for the fusion of bodies.

Crystallization. When saline substances, whether alkaline, earthy, or metallic, are dissolved in water, and evaporated, and suffered to stand, they pass from a fluid to a solid state, and assume certain determinate figures, the process is called *crystallization.*

Crystallization, water of. The water which is contained in a salt, or which combines with it, and becomes a constituent part, in the act of crystallization.

Crystals of tartar. Cream of tartar not pulverized.

Cupels. Vessels made of bone ashes, and a small portion of clay. They are used in cupellation.

Cupellation. A process, by which a foreign
oxydizable metal is separated from gold
silver.

Colcothar of vitriol. Sulphate of iron.
phate of iron, with an excess of base. T
yde of iron, of the French.

Cubic nitre. Nitrate of soda. Soda a
tric acid.

Cyanogen. A combination of carbon and

D

Decomposition. The separation of su
in a compound, from each other.

Decrement. Decrease. Thus a decr
temperature, implies a decrease of h

Decrepitation. When some bodies

ed to heat, they split, or fly off, with a crackling noise, which is called decrepitation. The term is also applied, when bodies are exposed to a strong heat, and they lose their moisture. Common salt exposed to heat, in this way, is said to be decrepitated.

Deflagration. Vivid combustion. Whenever nitrate of potash, or nitre, is exposed, along with an inflammable substance, as charcoal, to a red heat, this process takes place.

Deliquiescence. A term applied to certain saline bodies, which become moist, on exposure to the atmosphere, and which frequently run into a fluid state, by the absorption of water.

Deliquium. The state of any deliquiescent salt, when it becomes fluid by deliquiescence.

Deoxidize. To deprive of oxygen. Deoxydate. Dephlogistication, of the older chemists.

Deoxydizing rays. Those rays which more immediately separate oxygen from certain bodies.

Dephlegmation. The process, by which water, is separated from sundry liquids. It is used, also, in a more general signification.

Dephlegmatize. The process, by which water is separated from sundry liquids.

Dephlogisticated air. Oxygen gas. Vital air. Empyreal air.

Dephlogisticated marine acid. Chlorine.

Dephlogisticated nitrous gas. Protoxyde of azote. Gaseous oxyde of azote. Gaseous oxyde of nitrogen. Nitrous oxyde.

Detonation. An explosion, with noise, produced by chemical action.

Deutacetate of copper, of Thenard. Distilled verdigrease, of the shops.

Deutoxyde of arsenic, of Thenard. Arsenious acid.

Deutochloryde of mercury, of Thenard. Corrosive sublimate.

Deutoxyde of mercury, of Thenard. Precipitate, per se.

Deutoxyde of potassium. Potash. Pure potash.

Deutoxyde of sodium. Soda.

Deutosulphate of copper, of Thenard. Blue vitriol.

Deutosulphuret of tin. Mosaic gold.

Diamond. Carbon in a state of purity.

Digester, Papin's. An apparatus for exposing substances to the action of a strong heat, in order to reduce them to a pulp, or jelly.

Digestion. When solid are put into liq substances, and heat applied, digestion is s to take place.

Distillation. A process for separating and c lecting the volatile parts, from fixed substanc

Docimastic art. The assaying of metals.

Ductility. That property, which the m possess of being lengthened, or drawn into

Dulcification. The process of renderin stances sweet. It implies the combina mineral acids with alcohol, by distillatio products are, dulcified spirit of nitre, spirit of vitriol, &c.

Dutch gold. A combination of cop zinc, formed by the cementation of coppe with calamine, or impure oxyde of zinc,

E

Earths. Earths are distinct from metals, possess different characters, and unite with acids, and form a class of bodies, called earthy salts. Earths, properly speaking, are metallic oxydes, or compounds of particular bases, with oxygen. They have been divided into alkaline earths, owing to certain properties, which they possess, and earths proper, Of the former class, are lime, magnesia, barytes, and strontian, which impart a green colour to vegetable blues, and neutralize acids; of the latter, are yttria, glucina, alumina, and zeiconia, which are insoluble in water, and do not change vegetable blue colours.

Earthy smell. The peculiar smell of clay, or any argillaceous earth.

Edulcoration. A term used to express the purification of a substance, by washing.

Effervescence. The sudden escape of a gaseous substance, accompanied with an intestine motion.

Efflorescence. When saline substances, as sulphate of soda, are exposed to the air, they lose their water of crystallization, and become pulverent. This change is owing to efflorescence.

Elastic fluids. Gaseous fluids. Permanently elastic fluids.

Elective attraction Chemical affinity. This term was used, by Bergman and others, to express the power, by which decomposition was effected.

Elements. First principles. Simple substances. Undecomposeable substances.

English red. Tritoxyde of iron.

Epsom salt. Vitriol of magnesia. Bitter cathartic salt. Sulphate of magnesia. Magnesia and sulphuric acid.

Eliquation. The separation of one substance from another, by fusion. This depends on the degree of heat at which different bodies melt.

Elutriation. The washing of ores, &c. When metallic ores, or other substances, are pulverized, and mixed with water, the heavier parts subside, and the lighter are suspended, which i poured off.

Emetic tartar. Tartrate of potash and antimony.

Empyreuma. That peculiar, indescribable smell, which arises from the burning of anim and vegetable matter, in close vessels.

Ethiops, martial. Deutoxyde of iron.

Euchlorine Oxyde of chlorine.

Eudiometers, Graduated glass cylinders determine the quantity of oxygen gas, &c. in atmosphere. They are of various kinds descriptions, and furnished with graduated sc

Evaporation. The conversion of a flui vapour, by heat. Vaporization.

Exsiccation. The act of drying bodies, are moist, or more or less soft and fluid.

F

Fecula, green. The green colouring n some vegetables.

Fermentation. A peculiar spontaneo cess, which bodies undergo, when expo proper degree of heat, and for a certain length of time.

Ferrocyanic acid. Cyanogen and iron. Ferruretted chyazic acid.

Ferrocyanites. Triple prussiates. Thus prussiate of potash, prepared directly from prussian blue, or prussiate of iron, is ferrocyanite of potash.

Fibrin. The fibrous substance which remains after washing the coagulum of blood.

Filtration. A mechanical process, for the depuration of fluids. Straining.

Fire damp. Carburetted hydrogen gas. Hydrogen combined with carbon.

Fixed air. Ærial acid Carbonic acid. Carbon and oxygen.

Fixed oils. Oils which do not evaporate, as flaxseed oil, castor oil, &c. Essential oils are soluble in alcohol; fixed oils are not. The former are obtained by distillation, and the latter by expression.

Fixity. The property of some bodies to endure high temperatures, without being volatilized.

Flowers. When certain bodies are sublimed, they assume a soft spongy form, called flowers. Thus flowers of sulphur, flowers of benzoin, &c.

Flowers of benzoin. Benzoic acid.

Flowers of sulphur. Sulphur sublimed.

Flowers of zinc. Oxyde of zinc.

Fluates. Salts formed by the union of fluoric acid, and different bases.

Fluidity. A term applied to bodies in a liquid state.

Fluoboric acid. Fluorine and bo combined.

Fluor. Fluor spar. Derbyshire sp of lime. Lime and fluoric acid.

Fluoric acid. Acid of fluor spar.

Fluorine. The base of fluoric acid.

Fluosilic acid. Fluorine and silicon

Flux. A substance which promotes of ores, and other bodies.

Foliated earth of tartar. Acetated

Foliated mercurial earth. Deutacet cury.

Formic acid Acid of ants.

Formiates. Salts formed by the un mic acid with different bases.

Fossil alkali. Soda. Natron. Min Barilla. Deutoxyde of sodium.

Freezing mixtures. Certain saline which produce cold during their solu

Fulmination. Explosion with noise

Fuming liquor of Libavius. Deuto tin.

Fungates Salts formed by the un gic acid with various bases.

Fungic acid. An acid obtained f rooms, which constitutes a general in all of them.

Fungin. The fleshy part of mush peculiar vegetable principle.

Furnaces. Apparatus, of various the operations of chemistry, which r aid of heat; as the sand bath furn furnace, blast furnace, lamp furnace

Fusion. This term implies a chan a fluid state, by the applicati

G

Gallates. Salts formed by the union of gallic acid, and different bases.

Gallic acid. Acid of galls. Astringent principle.

Galvanic battery. A combination of two, or more troughs, forming a galvanic circuit.

Galvanic pile. An arrangement of zinc, copper, and cloth moistened with a solution of common salt, alternating with each other.

Galvanic trough. Plates of zinc and copper, arranged in a trough, or oblong box.

Galvanism. Galvanic electricity. The effect of the action of oxygenizing fluids, as a solution of common salt, diluted acids, &c. on metals, which have a greater or less affinity for oxygen, as zinc and silver, or zinc and copper.

Gangue. The stoney matter which accompanies ore.

Gas. Ærial fluid. A combination of a base with caloric; as hydrogen and caloric, forming hydrogen gas.

Gas holders. Apparatus, either of wood, glass, tin, or copper, for holding gas, with, or without stopcocks.

Gasometer, or gas measurer. An apparatus to determine the volume of gas.

Gelatin. Glue. Animal jelly.

Glauber's salts. Sulphate of soda. Vitriol of soda. Vitriolated natron. Soda and sulphuric acid.

Glucina. One of the earths.

Glucinum. The base of glucine.

Glue. Solid gelatine.

Gluten. The substance which ren kneading flour with a little water.

Gold. One of the metals.

Granulation. The operation of pou ed metal into water, or by passing holes of different apertures. The gra gunpowder is performed by giving it motion in a cask.

Graphite. Plumbago. Black lead of iron.

Gum. Solid mucilage.

Gun metal. An alloy of copper an parts of copper, and 10 or 12 of ti proportions. Zinc is sometimes ad a small quantity.

Gunpowder. A mixture of nitre, ch sulphur. The proportion of the i vary very considerably. 76 parts o of charcoal, and 9 of sulphur, are m

Gypsum. Plaster of Paris. Sele phate of lime. Lime and sulphuric

H

Hæmatites. Red oxyde of iron. Cal Iron and oxygen.

Hahneman's wine test. A combina phuretted hydrogen gas and water, fo lead in wines, prepared by mixing s lime, and supertartrate of potash in 'n the place of the latter, som acid. Water, impregnate phuretted hydrogen gas, will answer the same purpose.

Hartshorn, liquid. Ammonia. Water of ammonia.

Hartshorn, salt of. Carbonate of ammonia. Volatile salt of hartshorn. Carbonate of hydroguret of azote. Ammonia and carbonic acid.

Heat, matter of. Caloric. Radiant heat. Free heat.

Heavy inflammable air. Carburetted hydrogen gas. Carbon combined with hydrogen.

Hematin. Colouring matter of logwood.

Hepar sulphuris. Sulphuret of potash. Liver of sulphur. Potash and sulphur.

Hepatic gas. Sulphuretted hydrogen gas. Hydrothionic acid. Hydrogen combined with sulphur.

Hepatised ammonia. A combination of sulphuretted hydrogen, and ammonia. Hydrosulphuret of ammonia, of the Edinburgh Dispensatory.

Hermetically sealed. The orifice of a tube closed so as to render it air tight.

Homberg's pyrophorus. A preparation of alum, sugar, or flour, which takes fire spontaneously, in the air. Supposed to be a sulphuret of alumine, and to contain a portion of potassium.

Horn silver. Muriate of silver. Chloride of silver. Silver and muriatic acid.

Hydrate. A chemical combination of a body with water.

Hydriochloric acid. Marine acid. Spirit of sea salt. Muriatic acid. A compound of chlorine and hydrogen.

Hydriocyanic acid. Prussic acid. A compound of cyanogen and hydrogen.

Hydriodate. A combination of hydriodic acid with different bases.

Hydriodic acid. A combination of hydrogen and iodine.

Hydrithionic acid. Hydrosulphuric acid.

Hydrocarburets. Combinations of carbon with hydrogen.

Hydrochlorates. Muriates.

Hydrochloric æther. Muriatic æther.

Hydrochloronitric acid. Nitromuriatic acid.

Hydrocyanates. Prussiates.

Hydrocyanic acid. Prussic acid.

Hydrofluoric acid. Fluoric acid. Acid of fluor spar.

Hydrogen, arsenuretted. Arsenuretted hydrogen gas. Hydrogen and arsenic.

Hydrogen, carburetted. Carburetted hydrogen. Hydrogen and carbon.

Hydrogen gas. Inflammable air. Phlogiston, of some.

Hydrogen, phosphuretted. Hydrogen and phosphorus.

Hydrogen, selenuretted. Hydrogen and selenium.

Hydrogen, sulphuretted. Hydrogen and sulphur.

Hydrogen, supersulphuretted. Sulphuretted hydrogen, with a larger dose of sulphur.

Hydrogen, telluretted. Hydrogen and tellurium.

Hydroguret of carbon. Olefiant gas. Carburetted hydrogen. Hydrogen and carbon.

Hydroguret of nitrogen. Ammonia.

Hydroguret of phosphorus gas. Phosphuretted hydrogen gas. Phosphorus and hydrogen.

Hydroguretted sulphur. Supersulphuretted hydrogen.

Hydroguretted sulphurets. Compounds of hydroguretted sulphur, and different bases.

Hydrometer. An instrument to measure the strength, or to determine the specific gravity of fluids.

Hydromuriatic acid. Hydrochloric acid. Muriatic acid,

Hydro-oxydates. Oxydes combined with water.

Hydro-oxydes. Oxydes combined with water.

Hydrophosphoric gas. Bihydroguret of phosphorus. Phosphuretted hydrogen gas, containing less phosphorus than the phosphuretted hydrogen, properly so called.

Hydrosiderum. Cold short iron.

Hydroselenic acid. A compound of selenium and hydrogen.

Hydrosulphurets. Compounds of hydrosulphuretted hydrogen, and different bases.

Hydrosulphurous acid. Hydroguretted sulphur, Supersulphuretted hydrogen.

Hydrotelluric acid. Telluretted hydrogen.

Hyperoxygeneric. A term used to express the largest possible quantity of oxygen combined with a body.

Hyperoxygenized muriatic acid. Chloric acid.

Hyperoxymuriates. Chlorates. Compounds of hyperoxymuriatic, or chloric acid, and different bases.

Hyponitrous acid. Nitrous acid composed of one atom of azote, and three atoms of oxygen.

Hypophosphorous acid. A compound of one and half atoms of phosphorus, and one of oxygen,

Hyposulphurous acid. A compoun
om of sulphur, and one of oxygen.

I

Ice. The solid state of water. W
ty two degrees freezes, and becomes

Imponderable bodies. The number
this class, at present supposed to ex
in number, viz. light, caloric, elec
magnetism.

Incineration. The burning of ve
ashes.

Incombustibles. Substances which n
nor are capable of undergoing con
of supporting combustion. To this cl
azote.

Indian rubber Gum elastic. Cao

Inflammable air. Hydrogen gas·

Inflammation. Combustion with fl

Inflammable air, heavy. Carbure
gen gas.

Ink, durable writing. 'Nitrate of
carbonate of potash. The latter is
and the former applied with a pen.

Ink, printer's. A combination of
or boiled linseed oil, with lamp blac
occasionally other substances are a

Ink, sympathetic. A fluid which d
come legible, until operated upon b
mical agent, and then assumes a pa
lour, according to the substance us
agent employed.

Ink, writing. A combination of o
gallic acid.

Instruments for measuring heat. Thermometors, viz.

1. Fahrenheit's. The space between the freezing and boiling points is divided into 180 degrees. Water freezes at 32, and boils at 212 degrees.

2. Celsius's. Between the boiling and freezing points, it is divided into 100 degrees. The freezing point is zero, and the boiling point 100 degrees.

3. Reaumer's. The boiling point is at 80 degrees, and the scale begins at the freezing point.

4. De Lisle's. Between the freezing and boiling points, it is divided into 150 degrees. The graduation commences at the boiling point, which is marked 0.

5. Self registering. These are mercurial and spirit thermometers, which mark or register the temperature, by a simple contrivance fixed in the tube. One is a day, and the other a night thermometer.

6. Leslie's differential. An instrument, with two bulbs, so that by the rise and fall of the fluid, in either column, the heat of a particular current of air is determined.

7. Wedgwood's pyrometer. This consists of a number of pieces of clay, of a determinate size, and an instrument for measuring their bulk. It marks the degree of heat, in high temperatures, as in furnaces, by the contraction of the clay, a property peculiar to it.

Inulin. A vegetable principle, peculiar to elecampane.

Iodates. Compounds of iodic acid, with different bases.

Iodic acid. A compound of iodine and oxygen.

Iodides. Combinations of iodine with different bases.

Iodine. A newly discovered substance, obtained from kelp, by the use of sulphuric acid, and oxyde of manganese. It has the property of destroying vegetable colours, of appearing of a violet colour, when converted into vapour, as its name imports, and by combining with oxygen it forms an acid, called iodic acid.

Iodine, chloruret of. Chloriodic acid.

Iridium. A metal.

Iron. A metal.

Isinglass. Fish glue. Solid gelatine.

J

James's powder. Antimonial powder o
dispensatory. Phosphate of lime and ant
Phopshoric acid, lime, and antimony.

Jargon. Zirconia, one of the earths.
metallic base, called zirconium.

Jelly, animal. Calves' feet jelly. Ge
substances of this kind, either hard or s
glue, either hard or soft, parchment, s
isinglass, or fish glue.

Jelly, vegetable. The juice of bla
currants, and many other fruits, coag
to a soft tremulous substance.

K

Kali, carbonated. Carbonate of p

Kali of Klaproth. Potash. Vegetable alkali.

Kali, pure. Caustic potash. Potash deprived of carbonic acid. Pure vegetable alkali.

Kelp. Soda ashes.

Kermes mineral. Hydrosulphuret of antimony.

Kinates. Salts formed with the kinic acid, and different bases.

Kinate of lime. A salt composed of kinic acid and lime, and obtained from Peruvian bark.

Kinic acid. The acid of chincona, or Peruvian bark.

Koumiss. A vinous liquid, prepared by the Tartars, from mares' milk, resembling wine, or beer, from which alcohol may be obtained by distillation.

L

Laccic acid. An acid obtained from a vegetable production, called stick lac.

Lackers, or *lacquers.* Certain resinous solutions, principally formed of stick, or shell lac, which, when applied to metals, give them somewhat the appearance of varnish. They are usually coloured yellow, by turmeric, or gamboge, forming gold lacquer.

Lac sulphuris. Milk of sulphur. Precipitated sulphur. Hydrate of sulphur, of some.

Lactates. Salts formed by the union of the lactic acid, with certain bases.

Lactic acid. Acid of milk. When milk is kept for some time, it turns sour, and produces a peculiar acid, known by that name.

Lakes. Coloured precipitates, or colouring

matters, prepared by combining the
matter of cochineal, or various vege
stances, with alumina, or with oxyde of
carmine is a lake prepared from cochi
a solution of tin, or by the use of al
solution of potash.

Lana, philosophica. Sublimated oxy
Flowers of zinc. Zinc and oxygen.

Lapis infernalis. Infernal stone. L
tic. Nitrate of silver.

Latent heat. Heat chemically com
appreciable by the senses.

Lead. A metal.

Lemons, essential salt of. Citric acid
ly speaking, superoxylate of potash,
sorrel, is pulverized, and sold under t
to remove ink stains, and iron mo
stuffs. Various super salts are also
sold for the same purpose.

Levigation. The operation of gri
stances to an impalpable powder.

Ley, caustic. Caustic potash in sol

Libavius, fuming liquor of. Perchlo
Fuming muriate of tin. Oxyde of tin
atic acid.

Lignin. Ligneous fibre. Woody

Lime. Quicklime. One of the
combination of calcium and oxygen.
rest of the earths, it has a metallic b

Limestone. Carbonate of lime.
carbonic acid.

Liquefaction. The process of beco

Liquid ammonia. Water of ammo
bonated water of ammonia. Water
with alkaline gas, or ammoniacal ga

Liquid potash. Caustic ley. Solution of pure potash.

Liquids. All substances which are fluid.

Liquor silicum. Called also *liquor of flints.* Silicate of potash. Silex, or silica, previously fused with potash, in the proportion of about one part of silex, to four or six of potash, and dissolved in water.

Litharge. Vitrified oxyde of lead.

Lithia. So called by Berzelius, and is an alkaline salifiable base.

Lithic acid. Uric acid. Bezoardic acid. It is compounded of azote, carbon, and oxygen.

Lithium The metallic base of lithia.

Liver of sulphur. Sulphuret of potash. Potash and sulphur.

Lixiva. Potash. Vegetable alkali.

Lixivation. The solution of an alkali, as potash, in water, or some other fluid.

Luna cornea. Horn silver. Muriate of silver Chloride of silver. Silver and muriatic acid.

Lunar caustic. Nitrate of silver. Silver and nitric acid.

M

Maceration. The process of softening a substance, by steeping it in a fluid, without impregnating the latter.

Magistery of bismuth. Subnitrate of bismuth. Oxyde of bismuth, of some.

Magnesia. An earth.

Magnesium. The undecomposeable ba magnesia. A metal.

Malates. Salts formed by the union of acid, with different bases.

Malic acid. Acid of apples. It is obta likewise, from the juice of the common h leek, in which it exists, combined with lim

Malleability. That property, which m possess, of being extended, and flattened der the hammer.

Manganese. A metal.

Manganese, black. Oxyde of manganese. ganese and oxygen.

Marble. Carbonate of lime. Lime and bonic acid.

Marcasite of gold. Zinc. Spelter.

Margarates. Salts formed with margaric and different bases.

Margaric acid. An acid obtained from made of hog's lard and potash.

Margarine. Margaric acid.

Marine acid. Hydrochloric acid. M acid. Spirit of sea salt.

Martial ethiops. Black oxyde of iron. yde of iron. Iron and oxygen.

Massicot. Yellow oxyde of lead. Prot lead. Lead and oxygen.

Matrass. A chemical vessel for sol gestion, &c. A bolt head.

Matrix. The bed, in which subs ores, are found.

Matt. The metal which separate scoria, in smelting ores.

Medullin. Pith of sunflower. When distilled it furnishes ammonia.

Melasses acid. An acid obtained from melasses. Dr. Thomson considers it nothing more than either the acetic, or the malic acid.

Mellates. Salts formed by the combination of the mellitic acid with different bases.

Mellitic acid. An acid obtained from the mellite, or honey stone, in which it exists with alumina and water.

Melting. The operation of fusion.

Menstruum. A solvent. A fluid which dissolves a substance. Thus water is a menstruum for salts, gum, &c. and alcohol, a menstruum for resins, as rosin, benzoin, shell lac, &c. If an acid is used to dissolve a metal, it may be called an acid menstruum; if water, to dissolve a salt, or alkali, it is a watery menstruum; and if alcohol, or rectified spirit of wine be employed, it is called a spiritous menstruum.

Mephitic acid. Carbonic acid. Ærial acid.

Mercury. A metal, fluid at the usual temperature of the atmosphere, which boils at 656 degrees, and freezes, or congeals at 39 degrees below zero.

Metals. Metals are classed as salifiable combustibles, because they are capable of combustion, of uniting with, and neutralizing acids, and of forming a set of bodies, called metallic salts. They are impervious to light, and are melted by heat, but they differ from each other in their fusibility. They possess different degrees of specific gravity; some, as potassium, being lighter than water, and others, as platinum, twenty one and a half times heavier than water. They conduct electricity. Some are extremely hard. Being very elastic, which depends upon their hardness, various springs are made of them, and particularly of steel, a combination of iron and carbon. Some of them are very malleable, and may be extended, and flattened, to a surprising degree. The generality of them are so ductile, that they may be drawn into wire of great fineness. This depends upon their tenacity. The tenacity of metals, however, is various; for an iron wire, one tenth of an inch in diameter, will support a weight of five hundred pounds, and a lead wire, of the same thickness, will not support above twenty nine pounds. The bodies belonging to the class of metals, are twenty seven in number, which are divided into families.

Metallic calces. Metallic oxydes.

Metallic hydrates. Metallic oxydes combi
with water.

Metallic hydrogurets. Metals are obtain
the form of precipitates, either by the co
tion of sulphuretted hydrogen, hydro
sulphur, or of sulphur. The metallic b
viously held in solution, is deprived,
whole, or in part, of the oxygen before
ed with it. The base of the hydrosul
hydroguretted sulphur, which is adde
the precipitation, combines with the
held the oxyde in solution.

Metallic lustre. The peculiar lus
splendence, which characterizes the
of a metal.

Metallic oxydes. Combinations of metals with oxygen. Metals may be oxydized to the minimum, forming protoxydes, or to the maximum, constituting peroxydes, or may pass into intermediate grades of oxydizement.

Metallic salts. Salts formed by the union of metallic oxydes with acids.

Metallurgy. The art of extracting metals, and purifying them, for various purposes.

Meteoric stones. Stones which fall from the atmosphere. They contain silica, oxyde of iron, magnesia, oxyde of nickel, sulphur, and sometimes lime and alumine.

Miasma, miasmata. Matter of contagion. Certain bodies are known to exist in the atmosphere, we will not say combined with it, which exert a powerful action on the human body, and which have been termed *matter of contagion.* Miasmata may proceed from the decomposition of vegetable, or of animal substances, and the atmosphere may be tainted by other causes. In all cases, however, it has been supposed, that a certain noxious matter is dissolved in, or diffused through the air, and that by the action of this matter on the living body, certain diseases are produced. When noxious effluvia arise from putrefaction, it is known that certain agents will destroy it; hence the vapour of nitric acid, of muriatic acid gas, and of oxymuriatic acid gas, or chlorine, have been used with great success, in disinfecting air.

Microcosmic salt. Fusible salt of urine. Phosphate of soda and ammonia.

Milk, acid of. Lactic acid.

Mineralizers. When metals are combined with
ulphur, arsenic, oxygen, carbonic acid, &c.
s they are found in the earth, they are said to
e mineralized, and the substances found with
hem are called mineralizers.

Mineral waters. Waters holding a mineral
ubstance, whether acid, alkaline, earthy, or
netallic, in solution.

Minium. Red lead. Red oxyde of lead. Per-
xyde of lead. Lead and oxygen.

Mirrors, metallic, or *the mirrors of telescopes.*
n alloy of two parts of tin, and one part of
opper. Ancient metallic mirrors were compo-
ed of 62 parts of copper, 32 of tin, and 8 of lead.

Misy. Misy, sory, and calchantum of the an-
ients, as mentioned by Pliny, is the sulphate of
ron, copperas, or green vitriol, of the moderns.

Molecules. Ultimate particles of matter, not
ecomposeable.

Molybdates. Salts formed by the union of m
ybdic acid, with different bases.

Molybdic acid. Acid of molybdenum.
ybdenum and oxygen.

Molybdenous acid. Molybdenum com
ith a less proportion of oxygen than in th
er, called, by some, blue oxyd of molyb

Mordants. Mordants are substance
ave an affinity for colouring matter,
ain stuffs, by which the former is per
xed in the latter. They are all-im
e operations of dying, for while th
hemical affinity for particular colou
s a bond of union between the colo
er and the cloth. Hence the use
utions of tin, &c. in dying.

Moroxylates. Salts formed by the union of moroxylic acid, with different bases.

Moroxylic acid. An acid obtained from a saline exudation, found in the bark of the mulberry tree; the acid exists in combination with lime, from which it is separated. It is composed of oxygen, hydrogen, and carbon.

Morphia. A peculiar principle obtained from opium. It is to this substance, that the narcotic effect of opium is attributed; but Desorme asserts, that the narcotic principle is a compound, of morphia, and a peculiar acid. This acid is called the meconic.

Mortar, common. Quicklime and sand reduced to a soft consistence. The best proportions are three parts of fine sand, four of coarse sand, and one of quicklime, recently slacked, with a small quantity of water. The stoney consistence it assumes, is owing, as well to the absorption of carbonic acid, as to the combination of a part of the water with the lime.

Mortar, water. Mortar which hardens under water. Clay, added to common mortar, imparts this property; so do also some of the native lime stones. A combination of four parts of blue clay, six parts of black oxyd of manganese, and ninety parts of lime, calcined in the usual way, and mixed with sixty parts of sand, with a sufficient quantity of water, forms the celebrated water mortar of Morveau. Puzzolano, a vulcanic product, basaltes, some of the ores of iron, scales of iron, &c. all form water mortar.

Mosaic gold. Persulphuret of tin. Tin and sulphur.

Mother ley. The same as mother water.

Mother water. The water, or fluid, which remains after the separation, or crystallization of a salt.

Mucillage. A solution of gum. It is thick and adhesive.

Mucites. Saclactates. Salts formed by the union of mucous acid, with different bases.

Mucous acid. Saclactic acid. Acid of sugar of milk. It is composed of oxygen, hydrogen, and carbon. Its salts are called saclactates.

Mucus, animal. The substance obtained by evaporating saliva, and redissolving it in water, or by macerating an oyster in water, and evaporating the liquid.

Mucus, vegetable. It may be obtained from linseed, by the addition of hot water. It exists likewise in quince seeds, roots of hyacinth, of marshmallows, &c.

Muffle. A semicylindrical clay vessel, used as a cover to cupels, in the assay furnace. It is made to admit air, as circumstances require, and it further serves to prevent the charcoal from falling on the metal.

Muriatic acid. Marine acid. Spirit of salt. Glauber's spirit of sea salt. Hydrochloric acid.

Muriatic acid, dephlogisticated. Oxymuriatic acid. Chlorine.

Muriates. Salts formed by the union of muriatic acid, with different bases.

Muscagnine. Sulphate of ammonia. Sulphuric acid and ammonia, found among the lavas of Ætna and Vesuvius.

Musk, artificial. A preparation of oil of amber, made by beating one part of the oil, with four of the nitrous acid. The oil becomes thick and is converted into a yellow resin, having a peculiar taste and flavour.

Must. The juice of grapes, when fully ripe, are composed of water, sugar, jelly, gluten, and tartaric acid, partly saturated with potash. At the temperature of seventy degrees, the must undergoes the vinous fermentation, and produces wine.

Myricin. That principle which is separated from beeswax, or myrtle wax, when digested in boiling alcohol. The substance dissolved in the alcohol is cerin; that which remains is myricin. The latter melts between 100 and 140 degrees.

N

Nanceic acid. Zumic acid. An acid obtained from rice.

Nanceates. Zumates. Salts formed with nanceic acid, and different bases.

Narcotic acid. Sedative salt. Boracic acid. Acid of borax.

Natron. Soda. Fossil, or mineral alkali.

Natron, aerated. Carbonate of soda.

Natron, prepared. Mild fossil alkali. Carbonate of soda. Soda and carbonic acid.

Natron, vitriolated. Glauber's salt. Sulphate of soda. Soda and sulphuric acid.

Neutralization. When certain substances unite, and lose their individual properties, they are said to neutralize each other. Thus acids and alkalies neutralize one another, and produce compounds, altogether different from or alkali, in a separate state.

Nickel. A metal.

Nicotin. A peculiar principle furr tobacco.

Nitrates. Salts formed by the unior acid, with different bases.

Nitre. Nitrate of potash. Salt petr composed of nitric acid and potash.

Nitre, cubic. Nitrate of soda. Sod tric acid.

Nitre, fixed. Vegetable alkali. Pot of tartar. Carbonated potash.

Nitre, fixed by charcoal. Carbonate

Nitric acid. Spirit of nitre. A con 36,33 of azote, and 86,76 of oxygen; om of azote, and four atoms of oxyge

Nitrogen. Azote. Azotic gas. Pl ted air, of Priestley.

Nitromuriatic acid. Aqua regia, a mi composed of one part of nitric, and of muriatic acid.

Nitrous acid. A compound of oxyge ote. Nitrous acid, according to son from the nitric, in holding nitric oxyd rous gas, in solution. It may be fo combining together one volume of ox and two volumes of nitrous gas. It i sed, by weight, of 1,75 parts of azote, oxygen.

Nitrous acid hypo. Pernitrous acid, ed of 1 atom of azote, and 3 atoms of

Nitrous acid vapour of Priestley. Wl acid is saturated with nitrous gas, th which exhales, has been named the vapour of nitrous acid.

Nitrous etherised gas. When equal parts of alcohol and nitric acid are mixed, a gas is evolved, composed of nitrous oxyde and ether, called the nitrous etherial gas.

Nitrous gas. Nitric oxyde. Deutoxyde of azote. A compound of one atom of azote, and two atoms of oxygen; or by weight, of one and three quarters of azote, and two of oxygen.

Nitrous acid gas, dephlogisticated. Protoxyde of azote. Nitrous oxyde. Gaseous oxyde of azote. Gaseous oxyde of nitrogen. A compound of one atom of azote, and one atom of oxygen; or, by weight, of one and three quarters of azote, and one of oxygen.

Nitroxydes. Azotites. Combinations of protoxyde of azote, with alkalies.

Nitrum fixum. Sulphate of potash. Tartar of vitriol. Vitriol of potash. Sal polychrest. Potash and sulphuric acid.

Nitrum flammans. Nitrate of ammonia. Ammonia and nitric acid.

Noath's apparatus. An apparatus for impregnating water, or alkaline solutions, with carbonic acid gas.

O

Oil of vitriol. Vitriolic acid. Spirit of sulphur, per campanum, of the old chemists. Sulphuric acid. Acid of sulphur. A combination of three atoms of oxygen, and one atom of sul-

phur, or by weight, of three atom
and two of sulphur.

Oil of vitriol, glacial. Oil of vi
from sulphate of iron, or green vi

Oleates. Salts formed by the u
acid with different bases.

Olefiant gas. Hydroguret of ca
riety of carburetted hydrogen ga
buretted hydrogen.

Oleic acid. An acid prepared
hogslard in potash ley; the marg
ash is separated by adding water
which remains is the oleate of pot
composing it with tartaric acid,
is disengaged.

Opacity, metallic. All metals a
to light, even after they have bee
very thin lamina. Gold leaf, one
and eighty thousandth of an inch t
ception; for Newton first observed
transmit the green coloured rays.

Ores. Metals mineralized by s
ic, oxygen, &c.

Orichalcum. Brass. An alloy
copper.

Orpiment. Sulphuret of arsenic.
sulphur.

Osmazone. A substance similar
tained from animal bodies.

Osmium. A metal.

Oxalates. Salts formed by the
lic acid with different bases.

Oxalic acid. Acid of sorrel. Sa
A compound of hydrogen, carbon

Oxycarburetted hydrogen. A term applied, by the French chemists, to carburetted hydrogen, obtained by the distillation of moist charcoal, wood, pitcoal, and other substances. As the gases generated appear to be a mixture of hydrogen, bihydroguret of carbon, carbonic oxyde, and hydroguret of carbon, the term used by the French chemists does not seem appropriate.

Oxychlorates. Salts formed by the union of oxychloric acid with different bases. The only salt which has been examined, is oxychlorate of potash.

Oxychloric acid. A compound of chlorine and oxygen, in the proportion of one atom of chlorine, and seven atoms of oxygen. This acid, which is not much known, may be obtained by mixing sulphuric acid with chlorate of potash, (hyperoxymuriate of potash,) exposing it to heat, and dissolving the mass in water. On standing the the bisulphate of potash, which is formed, will separate in crystals. The oxychlorate now remaining, is to be distilled with its own weight of sulphuric acid, in a temperature of 280 degrees. The oxychloric acid will pass over, and sulphate of potash remain in the retort.

Oxyde of aluminum. Alumina.

Oxyde of calcium. Lime. Calcarious earth.

Oxyde of magnesium. Magnesia.

Oxyde of silicum. Silex.

Oxyde of strontian. Strontian.

Oxyde of yttrium. See yttrium.

Oxyde of zirconium. See zirconium.

Oxydes. Combinations of oxygen with differ-

[illegible] speaking, acid

[illegible] of oxygen
[illegible] capable of uniting
[illegible]
[illegible] composed of neu-
[illegible] hydrogen, and
[illegible] oxygen.
[illegible] products
[illegible] contain ex-
[illegible] which do not
[illegible]

[illegible]
[illegible] air. De-
[illegible] is per-
[illegible] heavier than
[illegible] and res-
[illegible] by com-
[illegible] different
[illegible] principle
[illegible] acid
[illegible] com-
[illegible] prepared by
[illegible] through a so-
[illegible] acid, (an acid
[illegible] hydrogen,) and ar-
[illegible] appearance of
[illegible]

Panification. Art of bread making. Fermentation of flour.

Parting. The separation of silver from gold, by nitric acid.

Pearl ash. Potash semipurified. Potash, pearl ash, and vegetable alkali, are synonimous terms.

Pelican. A glass alembic, with a tubulated capital, for distillation.

Perchloric acid. Oxychloric acid. This is considered the fourth compound of chlorine and oxygen.

Percussion. When a piece of iron is smartly struck with a hammer, it gradually becomes heated. Percussion, however, is a general term, used to express, in some cases, a condensation of a body, by the force applied, as in the condensing syringe, or by the hammering of metals.

Perlated acid. Acetic acid. A name given by Bergman to an acid, which Plupratt proved not to be a distinct substance, but superphosphate of soda.

Peroxydized water. Thenard succeeded, by using peroxyde of barium, and precipitating the barium by hydrochloric acid, in combining water with oxygen gas, to the amount of 120 times its bulk. Water, thus combined with oxygen, when applied to the skin, turns the cuticle white, and possesses other singular properties.

Pewter. An alloy of tin and zinc, but as a small quantity of bismuth is generally added to the mixture, in order to increase the brightness and hardness of tin, pewter may be considered an alloy of the three metals.

Phlogisticated air, of Priestley. Azotic Nitrogen gas.

Phlogiston. An imaginary element. *A* stituent part, it was thought, of all inflam ble bodies.

Phosgene gas. A compound of chlorine carbonic oxyde gas. Its composition is on om of chlorine, and one atom of carbonic oxy In lieu of the name *phosgene*, Thomson pro ses to call it *chlorocarbonic acid*, or *chloroxyc bonic acid;* as it is compounded of one atom carbon, one of chlorine, and one of oxygen.

Phosphates. Salts formed by the union of ph phoric acid with different bases.

Phosphatic acid. A name given, by Dulong, phosphorous acid.

Phosphites. Salts formed with phosphor acid and different bases.

Phosphorana. Perchloride of phosphorus.

Phosphorane. Protochloride of phosphor These two compounds are formed by the union phosphorus with chlorine; the one being the p chloride, and the other the protochloride, ha been so named by Sir Humphrey Davy.

Phosphoric acid. A compound of phospho and oxygen.

Phosphorous acid. A compound of phosp rus and oxygen.

Phosphorus. An inflammable body. At 1 degrees it takes fire, and burns with a very bri flame. It unites with oxygen, and forms fo separate compounds, namely, oxyde of phosp rus, hypophosphorous acid, phosphorous ac and phosphoric acid.

Phosphorus, chlorides of. See phosphorana, and phosphorane.

Phosphorus, hydrogurets of. The two proportions in which phosphorus unites with hydrogen, forming phosphuretted hydrogen, and hydrophosphuretted gas, have been named hydroguret, and bihydroguret of phosphorus.

Phosphoretted, or *phosphuretted hydrogen gas.* Hydroguret of phosphorus. Hydrogen and phosphorus.

Phosphorus, iodide of. A compound of phosphorus and iodine. Phosphorus unites, in two proportions, with iodine, forming a protiodide, and periodide, with that substance.

Phosphorus, liquid. Phosphoric acid. A solution of phosphorus in volatile, or other oils.

Phosphorus, of Homberg. Muriate of lime, previously exposed to a violent heat. It has the property of shining in the dark.

Phosphorus, of Baldwin. Nitrate of lime, exposed to heat, to drive off the water of crystallization.

Phosphurets. Compounds of phosphorus with different bases.

Phosphuretted æther. Phosphorus dissolved in æther.

Phosphuretted alcohol. Phosphorus dissolved in alcohol.

Phosphuretted oil. See liquid phosphorus.

Phosphuretted azotic gas. Phosphorus dissolved in, or combined with, azotic gas.

Phosphuretted hydrogen gas. Hydroguret of phosphorus. See phosphorus, hydroguret of.

of solution, it embraces all those processes, which, by decomposition, a solid is obtain Precipitation may be effected, either by less ing the quantity of the solvent, by evaporati by reduction of temperature, or by dilution, which the powers of the solvent are diminish or by the addition of some substance, which ther combines with the solvent, and precipita the solvend, or body held in solution, or unit with some constituent of the solution, and form an insoluble compound.

Prepared ammonia. Carbonate of ammoni

Prepared natron. Carbonate of soda.

Prepared chalk. Carbonate of lime, washe and levigated.

Prince Rupert's metal. Prince's metal. Pinc beck. An alloy of copper and zinc.

Prince Rupert's drops. Formed by letting me ted glass fall into water. They possess this si gular property, that if a portion of the tail i broken off, the whole falls into powder, with noise.

Principle, acidifying. Mr. Lavoisier conclu ed, from a variety of experiments, that sev ral combustible substances, when combined wi oxygen, form acids, and that, as a great numb of acids contain oxygen, he called oxygen th acidifying principle. Lavoisier's hypothesi however, cannot be wholly maintained, in co sequence of the late discoveries and observ tions, in relation to acids.

Principle, bitter, artificial. When nitric ac is made to act upon certain substances, a pec liar principle is obtained, crystallizable in itself, and of an intensely bitter taste. It possesses acid properties, and forms, with bases, a class of bodies similar to salts. Thenard terms them amarates.

Principles, animal. By this term we mean, not including the animal principle, which has been the subject of discussion by physiologists, but the principles which, like those of vegetables, are essential to the constitution, or formation of animal fluids and solids.

Principles, bitter. Vegetables of a bitter taste afford the bitter principle. The quassin, from quassia; the picrotoxin, from cocculus; the scillitin, from squills; the cofferin, from coffee; the daphnerin, from the daphne alpina, &c. are instances.

Principles, colouring. The polychroite obtained from saffron, and hæmatin from logwood, are of this description.

Principles, vegetable. The substances found in, or which constitute the parts of vegetables, have been so named. It is a remarkable fact, that the constituents of plants are continually passing through a regular set of changes. Thus, what may be mucilage in a young plant, assumes, in the old, the nature and character of starch; what, in green fruit, is acidulous, in ripe fruit is saccharine.

Products of combustion. Substances produced by, or are the results of combustion. Water, for instance, when hydrogen gas is burnt in oxygen gas, or in atmospheric air, is the result of the [illegible] is, therefore, the produc

The substance collected

[illegible] It is compose

wax.

A compoun

A comp

See phosph

Thenard.

Thenard.

Flowers of a

Heav

Thenard. Li

Protox

of potash.

Triple

acid and pe

acid, it mus

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When t

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a salt, in wh

one acid;

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of iron.

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however, is of opinio

state, and that it

azogen.

commonl

called perferrocyanate of iron. Ferrocyanic acid an… peroxyde of iron.

Prussian test. Triple prussiate of potash. Ferrocyanate of potash. See prussian alkali.

Prussiates. Salts formed by the combination of hydrocyanic, or

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combustion; it is, therefore, the product of that combustion.

Propolis. The substance collected by bees newly placed in a hive. It is composed principally of resin and wax.

Protiodide of phosphorus. A compound of iodine and phosphorus.

Protochloride of phosphorus. A compound of chlorine and phosphorus. See phosphorana.

Protochloride of mercury, of Thenard. Calomel.

Protosulphate of iron, of Thenard. Green vitriol.

Protoxyde of antimony. Flowers of antimony.

Protoxyde of barium. Barytes. Heavy earth.

Protoxyde of lead, fused, of Thenard. Litharge.

Purple precipitate, of Cassius. Protoxyde of gold.

Prussian alkali. Ferrocyanate of potash. Phlogisticated alkali. Prsusian test. Triple prussiate of potash. Ferrocyanic acid and potash. Hydrocyanic acid, or prussic acid, it must be recollected, when combined with salifiable bases, assumes a different character. When these bases, potash, for instance, are boiled together with prussian blue, we obtain a salt, in which iron actually forms a part of the acid; and therefore, Mr. Porott has shewn, that such salts contain an acid heretofore unknown, composed of hydrocyanic acid, and protoxyde of iron. To this acid he gave the name of ferruretted chyazic acid. Dr. Thomson, however, is of opinion, that the iron is in a metallic state, and that it is united, in this state. with cyanogen.

Prussian blue. Prussiate of iron, commonly called perferrocyanate of iron. Ferrocyanic acid and peroxyde of iron.

Prussian test. Triple prussiate of potash. Ferrocyanate of potash. See prussian alkali.

Prussiates. Salts formed by the combination of hydrocyanic, or prussic acid with different bases.

Prussiates, triple. Ferrocyanates. Ferruretted chyazates. Combination of ferrocyanic acid with different bases.

Prussic acid. Hydrocyanic acid. Hydrogen and cyanogen.

Pure clay. Argil. Alumina.

Purple of amorgas. A colour obtained from archil, by the ancients. The *lichen cocella* is the substance from which archil is made.

Purple powder of Cassius. When gold, dissolved in nitromuriatic acid, is precipitated by muriate of tin, it is separated in a purple oxyde, combined with the oxyde of tin, forming a purple powder, known by that name.

Purpuric acid. A name given by Dr. Wollaston, to a newly discovered acid, obtained from uric acid, by nitric acid. It is composed, like uric acid, of azote, carbon, hydrogen and azote.

Pus. A fluid secretion from the surface of an inflamed part. When exposed to the air, it becomes acid. Evaporated to dryness, it has the appearance of horn. To distinguish pus from mucus, is frequently of importance. Sulphuric acid dissolves pus; when diluted, it precipitates. Mucus treated in the same manner dissolves. In diluted sulphuric acid, water and brine, pus is diffusable, or soluble, but mucus is not. Whetriturated with an equal quantity of warm water, and an equal portion of a saturated solution of carbonate of potash added, and the mixture suffered to stand, if pus be present, a transparent jelly subsides in a few hours, but with mucus no appearance of the kind takes place.

Putrefaction, When animal or vegetable substances are exposed, under particular circumstances, to the action of external agents, by which the bodies themselves are decomposed, and new products are formed, putrefaction is said to take place. It is nothing more than the resolution of substances to their primary constituent parts, and a new arrangement of first principles, according to the laws of chemical affinity, takes place.

Putrefaction, preventatives from. All substances which retard putrefaction operate, of course, in preventing the putrefactive process; hence freezing, or freezing temperatures, bodies which have a strong affinity for water, as sugar, alcohol, and acids, muriate of soda, nitrate of potash, and some other salts; aromatics, as camphor, bitumens, volatile oils, resins, &c. and charcoal, have all been used, with more or less advantage.

Putrid miasmata. See miasmata.

Pyrites, iron. Sulphate of iron. Iron and sulphur.

Pyrites, magnetic. Protosulphuret of iron. Sulphuret of iron. 100 parts of iron, and 58,72 of sulphur.

Pyrites, cubic. Persulphuret of iron. Taking the mean of Mr. Hatchet's analysis of different specimens, its component parts are of iron 100, and 113 of sulphur.

Pyroacetic spirit. That fluid obtained when acetates are distilled in a retort, by a gradual heat. It possesses properties peculiar to itself.

Pyroligneous acid. When wood is distilled, an acid liquor is obtained, having a peculiar taste and smell, and formerly known by the name of pyroligneous acid. It is nothing more, as the experiments of Fourcroy and Vauquelin have determined, than acetic acid, impregnated with empyreumatic oil. Hence it is called pyroacetic acid. It is prepared in abundance, in the carbonization of wood, for the preparation of charcoal. It is used in the arts for making iron liquor, and has been highly recommended as a preservative.

Pyromachus. Flint.

Pyrometer, of Wedgwood. See instruments for measuring heat.

P*yrophorus* of Homberg. See Homberg's pyrophorus.

P*yrophorus*, *Canton's*. Canton's preparation consists in calcining oyster shells, pounding them, and exposing three parts of the powder, with one of sulphur, to a red heat, for one hour; when first exposed to light, it becomes sufficiently luminous, to be very visibly distinguished in the dark.

P*yrophori*. Substances which heat of themselves, and take fire when exposed to the atmosphere.

P*yrotartaric acid* When tartaric acid is saturated with potash, and afterwards crystallized, and the salt then distilled with diluted sulphuric acid, towards the end of the process pyrotartaric acid will sublime. The liquor in the receiver will deposit crystals of this acid, if submitted to spontaneous evaporation.

Pyrotartrates. Salts formed by the union of pyrotartaric acid with different bases.

Q

Quartation. In certain operations of parting, quartation is used. Its name implies the proportion of the materials employed, as one part of alloy, for instance, added to three parts of silver, makes a *fourth* of the mixture. When sulphur is thrown upon the melted mass, it unites with the silver, and separates the gold, if present, which falls to the bottom.

Quassin. The bitter principle of quassia.

Quicksilver. Mercury.

Quicklime. Burnt lime. Lime. Lime deprived of carbonic acid.

R

Radiant heat. Free heat. When heat passes off, it is in right lines; therefore it distributes itself in all directions, by radiation.

Radicals. A chemical term for the elements of bodies.

Radicals, compound. Two or more substances in a base. Sulphuric acid is formed with a sin-

gle radical; the vegetable acid, with a *compound* radical, having more than one substance for a base.

Radical vinegar. Acetic acid. Acetic acid distilled from several of the metallic acetates.

Rancidity. Fixed oils, &c. when kept for some time, undergo a change, well known by this name. Oil, thus changed, converts vegetable blues to red, and therefore contains an acid.

Rays of caloric. Calorific rays. Rays which produce heat.

Reagents. Tests. Precipitants, of Bergman. Bodies which, when added to mineral water, or other liquids, discover the presence of certain substances.

Realgar. Sulphuret of arsenic. Arsenic and sulphur.

Receivers. Glass vessels for retorts, to collect and condense the products of distillation.

Rectification. Distillation repeated as often as circumstances require.

Red chalk. Reddle. An ore of iron.

Red lead. Minium. Red oxyde of lead. Lead and oxygen.

Red orpiment. Realgar.

Red precipitate. Red oxyde of mercury. Subnitrate of mercury, of some pharmacopeas.

Reduction. When metallic oxydes are restored to their original state as metals, by charcoal and fluxes, they are said to be reduced.

Refrigeratory. A cooler. A condenser. A contrivance to condense vapour, by the application of cold. A worm tub of a still, is of this kind.

Regulus. Pure metal. A name given to some of the metals in their metallic state, as regulus of antimony, &c.

Repulsion. Repulsive power. That power in chemistry, which is opposed to the attraction of aggregation.

Residuum. Caput mortuum. The substance left in a retort after distillation.

Resins. Sustances insoluble in water, but soluble in alcohol, or rectified spirits of wine.—There are vegetable and mineral resins. The juices of plants, and the different species of turpentine, furnish a variety of resinous substances. Amber, asphaltum, &c. are mineral resins.

Respirable gases. Gases which may be respired. Atmospheric air is the only æriform fluid which supports the process of respiration, with equal effect. Other gases, classed as respirable, are destructive, sooner or later, of animal life.

Retort. A distillatory vessel, mostly made of glass.

Reverberatory. A furnace furnished with a dome, by which the flame is confined, and beat down, either upon the floor of the furnace, or upon the matter under operation.

Revivification. Reduction, which see.

Rhaphanticum. Garden rheubarb.

Rheumic acid. Acid of the rheum.

Rhodium. A metal.

Roasting. An operation in metallurgy, to dissipate the mineralizing substances of an ore, &c. as sulphur, arsenic, &c.

Rochelle salt. A triple salt, composed of tararic acid, potash, and soda.

Rosaic acid. Uric acid, of Pearson. Urine, during intermittent fever, deposits a copious precipitate, from which rosaic acid is obtained.

Rust of iron. Carbonate of iron. Oxyde of iron, of some.

S

Saccharine acid. Acid of sugar. Oxalic acid.

Saccharine matter, animal. The species furnished by the animal kingdom, are sugar of milk, honey, and diabetic urine.

Saclactates. Combinations of saclactic acid with different bases.

Saclactic acid. Acid of the sugar of milk, composed of carbon, hydrogen, and oxygen.

Sal ammoniac. Muriate of ammonia. Ammonia and muriatic acid.

Sal de duobus. Sulphate of potash. Tartar of vitriol. Potash and sulphuric acid.

Sal gem. Rock salt. Sea salt. Common salt. Muriate of soda. Hydrochlorate of soda. Soda and hydrochloric, or muriatic acid.

Salifiable bases. Certain substances, which by combining with acids, form salts. They are either alkaline, as ammonia, potash, soda; earthy, as yttria, glucina, alumina; or possess neither alkaline nor earthy character, as metallic bases.

Sal mirabile. Glauber's salt. Sulphate of soda. Soda and sulphuric acid.

Sal polychrest. See sal de duobus

Sal perlatum. Phosphate of soda. Soda and phosphoric acid.

alt. common. Muriate of soda. Chloride
ium, &c. See sal gem.

Salt. diuretic. Acetate of potash. Potash a
etic acid.

Salt, Epsom. Sulphate of magnesia. Magn
a and sulphuric acid.

Salt, febrifuge. Muriate of potash. Chlori
f potassium. Potash and muriatic acid.

Salt, Glauber's. Sulphate of soda. Soda a
ulphuric acid.

Salt, narcotic. Boracic acid.

Salt of amber. Succinic acid..

Salt of saturn. Sugar of lead. Acetate of lea

Salt of seinette. Rochelle salt. Tartrate
potash and soda.

Salt of tartar. Carbonate of potash. Pota
and carbonic acid.

Salt, rock. Muriate of soda.

Salts. Combinations of acids with salifia
bases. They are denominated from the ac
they contain; thus, sulphate of soda, implie
union of sulphuric acid and soda. When
alkali is the base, they are called alkaline s
if an earth, they are denominated earthy s
and if a metal, they are termed metallic s

Salt, sedative. Boracic acid.

Salt of sorrel. Bino-oxalate of potash.

Salt petre. Nitrate of potash. Nitre. P
and nitric acid.

Salts, neutral. Alkaline salts. It was s
sed, that the acids and alkalies counte
each other; hence the compounds forme
sessing neither acid nor alkaline pro
were named neutral salts. They, how

far counteract each other, that they destroy their respective properties, as the compound formed is neither acid nor alkaline.

Salts, super. If the acid exists in excess in a salt, it is denominated a super salt, or acidulous. Some salts have the property of combining with an additional dose of their acid.

Salts, sub. Salts in which an additional dose, or quantity of their base is in combination.

Salts, triple. Salts formed by the union of an acid with two bases, as tartrate of potash and soda, or Rochelle salt. Triple salts are frequently expressed by prefixing one of the names of the bases to the generic name, as soda-muriate of rhodium, meaning muriate of soda and rhodium.

Sap colours. Sundry vegetable juices, chiefly of a viscid nature, inspissated by slow evaporation. Of this kind is the inspissated juice of the buckthorn, known by the name of sap green.

Saponules. Compounds formed by the union of oil and alkali, with earthy and metallic bases, forming alkaline, earthy, or metallic soaps.

Saturation. That point in which a fluid ceases to take up, or dissolve any more of a substance.

Saturn, sugar of. Sugar of lead. Acetate of lead.

Scillitin, The bitter principle of squills.

Sebacic acid. Acid of fat. This acid may be formed by the distillation of tallow. Berzelius, however, has proved, that it is not a distinct acid, as was asserted, but merely benzoic acid united with some unknown substance.

Selenic acid. A compound of selenium and oxygen.

Selenite. Gypsum. Plaster of Paris. Sulphate of lime. Lime and sulphuric acid.

Semimetals. Metals neither malleable nor ductile. This term is obsolete.

Silica. Siliceous earth. Flinty earth. An earth.

Silicated fluoric acid. Fluosilicic acid. A compound of silica and fluorine.

Silicium, A metal. The undecomposeable base of silica. As its metallic natūre is doubtful, it is classed along with boron and carbon, and denominated silicon.

Silicated potash. Liquor of flints. A compound of silica and potash, which may be decomposed, and the earth obtained pure, by the addition of muriatic acid.

Silver. A metal.

Simple combustibles. Substances which unite with the supporters of combustion, and emit light and heat, whenever that union is rapid. They are divided as follows; bodies which form acids, such as hydrogen, carbon, boron, silicon, phosphorus, sulphur, and arsenic; bodies forming alkalies, or salifiable bases, of which there are five families, constituting the metals and metalloids; and bodies forming imperfect acids, as antimony, chromium, molybdenum, &c.

Simple incombustibles. An incombustible implies a substance, which does not burn. Although they may combine with a supporter of combustion, yet there is no evolution of heat and light. Azote, however, is the only body ranked in this class.

Smelting. When ores are exposed to heat, or torrified, or roasted, in order to dissipate the mineralizing substances, as sulphur and arsenic, they are said to be smelted, or to have undergone the operation of smelting.

Soap. A combination of oil, tallow, &c. with alkali. Fixed oils and tallow contain stearin and elain, and salifiable bases have the property of *converting* them, as we are informed, into two acids, the margaritic and oleic. It is found, however, that the combination of fixed oils and tallow with alkalies, in constituting soaps, does not take place by a direct union of these bodies, but only in consequence of the combination of the two acids before mentioned, with salifiable bases.

Soap of ammonia. Volatile liniment, a combination of liquid ammonia with olive oil.

Soap of potash. Soft soap, a combination of oil, fat, &c. with potash.

Soap of soda. Hard soap, a combination of oil, &c. with soda.

Soaps, alkaline. Combinations of oil, &c. with alkalies.

Soaps, earthy. Combinations of earth with oil, &c. They are formed by mixing common soap with the solution of an earthy salt.

Soaps, metallic. Soaps having a metallic base.

Soda. Natron. Mineral alkali. Fossil alkali.

Sodium. The undecomposeable base of soda. A metal.

Sodium, chloride of. Common, or sea salt. Muriate of soda.

Solder, plumber's. An alloy of tin and lead, in different proportions.

Solubility. The general character of salts. Saline bodies are more or less soluble in water, according to the nature of the salt, and the temperature of the water. Some bodies are very soluble; others again are less so, and in fact scarcely perceptible, as sulphate of barytes. Those salts of the *least* solubility separate first in crystallization, and those of *greater* solubility remain in the mother water, and require, for their separation, further evaporation.

Soluble tartar. Tartrate of potash.

Solution. A solid dissolved in a fluid. It may be termed a perfect union of a solid substance with a fluid.

Sorbates. Combinations of sorbic acid with different bases.

Sorbic acid. An acid prepared from the expressed juice of the berries of the mountain ash, and composed, like other vegetable acids, of hydrogen, carbon, and oxygen.

Specific gravity. By the specific weight, or gravity of bodies we mean a given *measure* of any solid or fluid, compared with the same *measure* of distilled water; or, which is the same, the quotient of the absolute weight of a body divided by its magnitude.

Spelter. Zinc.

Spirit of nitre. Nitric acid.

Spirit of sal ammoniac. Liquid ammonia.

Spirit of sea salt. Muriatic acid. Hydrochloric acid.

Spirit of wine. Alcohol.

Spirit, pyroacetic. See Pyroacetic acid.

Spirits, proof. When water is mixed with alcohol, so that the specific gravity of the mixture does not exceed 0,930, water being 1,000, it forms proof spirit. Under proof, of course, contains less alcohol, and more water, and *vice versa.*

Steam. Water at 212 degrees boils, and is converted into steam; which may be condensed again into a liquid. Steam possesses a wonderful power and elasticity; hence its use in the steam engine as a moving power.

Stearin. A substance obtained from hog's lard, by treating it with alcohol heated to its boiling point. As the alcohol becomes cool, the stearin will separate, and precipitate. Other processes are used for obtaining it.

Steel. A combination of iron and carbon, called, for that reason, carburetted iron. There are many varieties of steel, as 1st. Natural steel, formed by exposing cast iron, for some time, to the action of a violent heat, having it previously covered with melted scoria, or otherwise. 2nd. Steel of cementation, called also blistered steel, for the preparation of which bars of iron are stratified with charcoal, and exposed, for some time, to heat. When drawn into bars, it forms tilted steel, and pieces of it welded together constitute the German steel. 3rd. Cast steel; this variety is formed by melting the blistered steel with glass and charcoal powder. Steel may be known from iron, by putting a few drops of nitric acid on the metal; on steel it leaves a black spot, and on iron a whitish green. As iron and carbon may unite

in various proportions, those combinations,
which carbon predominates, are carburets
iron, as in plumbago, or black lead; but th
in which the iron exceeds, either steel, or c
iron is formed, according to the proportion, a
subcarburets of iron.

Stibium. The old name for antimony.

Stratification. Bodies placed layer upon lay
so that they may mutually act upon each oth

Strontian. An earth.

Strontium. The metal of strontian. The
decomposeable base of strontian.

Strychonin. The deleterious principle of n
vomica. Half a grain, we are told, destroye
rabit, by tetanus, in five minutes.

Suberates. Salts formed by the union of
beric acid with different bases.

Suberic acid. Acid of cork.

Sublimate, corrosive. Corrosive muriate
mercury. Perchloride of mercury. Former
oxymuriate of mercury. A combination of m
cury and chlorine.

Sublimation. A process, by which bodies a
volatilized by heat, and condensed in a so
form, at the upper part of the vessel, called
sublimer.

Sub salts. Salts which have an excess of ba

Sub soap. A name proposed for saponule.

Succinates. Salts formed by the union of s
cinic acid with salifiable bases.

Succinic acid. Acid of amber. Salt of amb
of the shops.

Sugar, acid of. Oxalic acid. Saccharine aci

Sugar candy. Crystallized sugar.

Sugar of lead. Acetate of lead.

Sugar of milk, acid of. Saclactic acid.

Sugar of saturn. Acetate of lead.

Sulphate of indigo. Liquid blue dye. Saxon blue dye.

Sulphates. Salts formed by the union of sulphuric acid with salifiable bases.

Sulphites. Salts formed by the combination of sulphurous acid with sundry bases.

Sulphocyanates. Salts formed by the union of sulphocyanic acid with different bases.

Sulphocyanic acid. Anthrazothionic acid. Sulphuretted chyazic acid. A compound of hydrocyanic, or prussic acid with sulphur.

Sulphur. A combustible substance.

Sulphuret of zinc. Blende.

Sulphurets. Combinations of sulphur with different bases. As sulphur unites with the alkalies, earths, and metals, the compounds formed are either alkaline, earthy, or metallic sulphurets.

Sulphuretted alcohol. Sulphur combined with alcohol.

Sulphuretted hydrogen. Hepatic gas. Hydrothionic acid. A combination of sulphur and hydrogen.

Sulphur, flowers of. Sublimed sulphur.

Sulphur, milk of. Precipitated sulphur. White sulphur. Hydrate of sulphur, of some.

Sulphur, native. Sulphur in its native state. Virgin sulphur.

Sulphur, roll. Common brimstone. Melted sulphur. Impure sulphur.

Sulphuric acid. Oil of vitriol. Spirit of sulphur. Vitriolic acid. A compound of sulphur and oxygen.

Sulphurous acid. Phlogisticated sulphuric acid, or rather, phlogisticated spirit of sulphur. A compound of sulphur and oxygen.

Sulphurous salt of Stahl. Sulphite of potash. A combination of sulphurous acid and potash.

Sulphurs. Casts made of melted sulphur.

Super oxygenized muriatic acid. Oxyde of chlorine.

Super salts. Salts which contain an excess of acid.

Super persulphuretted hydrogen. Hydrosulphurous acid. Hydroguretted sulphur.

Supporters of combustion Those bodies which support and maintain combustion, such as oxygen, chlorine, &c.

Syphon. A crane. A bent tube, with one leg longer than the other, for the purpose of drawing liquids from one vessel into another. They are either of metal or glass, furnished with, or without stopcocks, and mouth pieces. Syphons, or sigmoid tubes, are used for conveying gases, from the gas bottle to the gas holder.

T

Tannin. The vegetable principle which combines with gelatine, and forms leather. The tanning principle. It exists in nut gall, oak bark &c and is mostly associated with the astringen principle, or gallic acid.

Tannin, artificial. By the action of dilut nitric acid on charcoal, a substance is obtai possessing the properties of the tannin of vegetables. Hence it is called artificial tannin.

Tartallium. Columbium. A metal.

Tartar, cream of. Supertartrate of potash. Tartaric acid and potash, with the acid in excess.

Tartar, crude. Unpurified tartar.

Tartar, crystals of. Supertartrate of potash.

Tartar emetic. A triple salt, called tartrate of potash and antimony, composed of tartaric acid, potash, and antimony.

Tartaric acid. Acid of tartar.

Tartarized antimony Tartar emetic.

Tartarin Potash. Vegetable alkali.

Tartar, salt of. Carbonate of patash. Potash and carbonic acid.

Tartar vitriolated. Sulphate of potash. Potash and sulphuric acid.

Tellurates. Salts formed by the union of telluric acid with different bases.

Telluretted. A term applicable to certain compounds, in which tellurium enters.

Telluretted hydrogen gas. A combination of tellurium with hydrogen.

Telluric acid. A combination of tellurium and oxygen. Tellurium, although combined with oxygen, and forming but one compound performs not only the part of an acid, but also that of a salifiable base.

Tellurium. A metal.

Tempering. The act of imparting a particular property to glass or metals. The tempering of hardened steel is performed by heating it, till some particular colour appears on the surface. For steel instruments, especially for

It is a constituent part of the bark of many trees, from which it may be obtained by digestion in alcohol, then in cold water, and taking the bark, thus treated, and digesting it in a weak solution of carbonate of potash.

Union, chemical. Two or more bodies united into one mass, inseparable by mechanical means.

Uranium. A metal.

Urates. Salts formed by the union of uric acid with different bases.

Urea. A peculiar substance obtained from urine. It was called, by Roulle, in 1773, the saponaceous extract of urine.

Uric acid. Lithic acid. Bezoardic acid.

Urine, fusible salt of. Microcosmic salt. Phosphate of soda and ammonia.

Ustulation. The roasting of ores, &c.

V

Vaporization. Evaporation. The conversion of a fluid to the state of vapour.

Vapour. An æriform fluid capable of condensation into a liquid state. Gases, on the contrary, are permanently elastic. Thus we have the vapour of water, or aqueous vapour; the vapour of ether, of alcohol, &c. Vapour is elastic, and increases with the temperature. It is more or less dense, according to the liquid from which it arises. Vapour is nothing more than a fluid converted into an æriform state, by its union with caloric. The boiling point of fluids varies; water, for instance, boils at 212 degrees, and alcohol at 178, while ether undergoes the same change at 96 degrees. The specific gravity of vapour is also various. Dr. Black applied his theory of latent heat to the conversion of fluids into vapour, and vice versa. The atmosphere, in its dryest state, contains moisture; hence it is, that potash, muriate of lime, sulphuric acid, &c. absorb it; the two former becoming often fluid, and the latter losing its strength. To determine the amount of moisture, advantage is taken of this circumstance, in the construction of some hygrometers, of which there are various kinds.

Varnish. The solution of resins in various fluids, as alcohol, boiled or drying oil, &c. That made with alcohol, is called spirit varnish, because alcohol is the solvent; and that prepared with oils is called oil varnish.

Vegetable acids. Those acids which are furnished by, and obtained from, the vegetable kingdom.

Vegetable alkali. Potash.

Vegetable alkali, caustic. Pure potash. Caustic potash.

Vegetable alkali, vitriolated. Sulphate of potash. A combination, according to some, of sulphurous acid with potash.

Vegetable decomposition. Vegetable putrefaction. The separation of the elementary principles of vegetables. Marsh miasmata, as it is called, is produced by vegetable decomposition.

Vegetable principles. Principles contained in, obtained from, and are peculiar to vegetables.

Vegetation. That process of nature, by which

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vegetables grow, and their various saps, juices, and principles, are formed, which, according to circumstances, and the change of affinities, are converted into certain substances, called the products of vegetation.

Venus. Copper.

Venus, salts of. Salts of copper.

Verdegrease. A combination, according to some, of peracetate and subperacetate of copper. Copper, more or less oxydized, combined with acetic acid.

Verdegrease, distilled. Crystallized acetate of copper.

Verjuice. The juice of unripe grapes. It contains citric acid, tartar, a little malic acid, sulphate of potash, sulphate of lime, extractive, and water, but neither gum nor sugar. As grapes ripen, the citric acid disappears, and gum and sugar take its place. The juice of the ripe fruit, called must, when fermented forms wine. Its colour depends upon the skin, which, if suffered to remain, gives it a red appearance, and imparts also an astringent taste, as in the different *red wines* of Oporto, &c.

Vermillion. Red sulphuret of mercury. Persulphuret of mercury. Mercury and sulphur.

Vinegar. Malt liquor, cyder, &c. which have passed the acetous fermentation. Various artificial means are employed to hasten the process, as the addition of saccharine matter, increased temperature, and exposure to air.

Vinegar, distilled. Acetous acid. Distilled vinegar is nothing more than diluted acetic acid, or vinegar separated from mucilaginous, extractive, and colouring matter.

Vinegar, radical. Acetic acid. Concentrated distilled vinegar, obtained by the decomposition of acetates, &c.

Vital air. Deplogisticated air. Empyreal air. Fire air, of Scheele. Oxygen gas.

Vitrification. When bodies are converted into glass, as silica, by means of alkali, it is said to be vitrified, and the process is called *vitrification.*

Vitriolated magnesia. Bitter cathartic salt. Sulphate of magnesia.

Vitriolated soda. Glauber's salt. Sulphate of soda.

Vitriolic acid. Oil of vitriol. Sulphuric acid.

Vitriol of copper. Blue vitriol. Sulphate of copper.

Vitriol of iron. Green vitriol. Copperas. Sulphate of iron.

Vitriol of zinc. White vitriol. Sulphate of zinc.

Volatile alkali. Ammonia. Hydroguret of nitrogen.

Volatile alkali, mild. Carbonate of ammonia.

Volatile oils. Essential oils. Oils which are soluble in alcohol, readily evaporate, and leave no residuum. If adulterated with fixed oils, the fraud may be detected by solution in alcohol, and by evaporation. When pure they dissolve wholly in alcohol, and evaporate without leaving a residuum.

Volatilization. Evaporation. The process, by which bodies are volatilized.

Volta's eudiometer. An instrument to determine the purity of air, or the presence or ab sence of oxygen gas. This eudiometer differs from the others, as hydrogen gas is the substance employed. The electric spark is made to pass through a certain mixture of the air, which is to be examined, and hydrogen.

W

Wash. The name given to the fermented wort of distillers, from which ardent liquor is obtained by distillation.

Water. A compound of oxygen and hydrogen. Atomically speaking, it is a compound of eight of oxygen, and one of hydrogen.

Water, distilled. By the distillation of water, it is separated from various foreign substances, as saline matter, &c. and thereby rendered pure.

Water, freezing point of. Thirty two degrees of Fahrenheit.

Water, mineral. When water is impregnated with mineral substances, it receives the name of mineral water. Waters of this kind are chalybeate or ferruginous, alkaline, sulphurous, hepatic, carbonated, &c. according to the substances contained in them. See mineral water.

Water, point of ebullition, or *boiling point of*. Two hundred and twelve degrees of Fahrenheit.

Water of ammonia. Spirit of hartshorn. Ammoniacal gas, either pure or carbonated, combined with water; hence we have caustic ammonia, and carbonated ammonia.

Water of nitre. Nitric acid.

Water of potash. Caustic ley. Solution of pure potash.

Water, peroxydized. See Peroxydized water.

Waters acidulous, - - - - *alkaline,* - - - - *carbonated alkaline,* - - - - *chalybeate,* - - - - *hepatic.*	Mineral waters.

Water, sea. The saline characteristic of sea water is owing to the presence of muriate of soda, and other substances. Hence by evaporation, the salt is separated, and the remaining fluid, when properly treated, affords Glauber's salt, Epsom salt, &c. The salt, or brine springs, salt licks, &c. with which our country abounds, contains, besides muriate of soda, other saline substances. But as the salt generally separates first, the mother water produces, either by further evaporation, or precipitation, other substances, which are more or less profitable to the manufacturer. Both Glauber's salt and magnesia are made in this way.

Way, dry. Via sicca. A process carried on by fire, or the application of heat.

Way, humid. Via humida. A process by which the agency of water, or other fluid, is used.

Welding heat. That heat which is required for uniting two metals together.

Whey. The fluid separated from the curd of milk, by the use of rennet, or acid.

Whiskey. A distilled spirit from the *wash*, or fermented liquor of barley, rye, corn, and from cyder, or the fermented juice of apples, &c.

White arsenic. Deutoxyde of arsenic, of Thenard.

White lead. Carbonate of lead. White oxyde of lead, of some.

White magnesia. Magnesia of the shops. Carbonate of magnesia.

White of eggs. Albumen.

White tombac. See tombac.

White vitriol. Sulphate of zinc.

Wine. The fermented juice, or must, of the grape.

Wine, spirit of. Alcohol. Although alcohol is called spirit of wine, yet all spiritous fermented liquors will yield it by distillation; thus rum, brandy, whiskey, &c, when redistilled, will furnish alcohol. The strength, or specific gravity of the liquor. depends upon the absence of water. The strongest alcohol is obtained by distilling the spirits from dry muriate of lime.

Wodanium. A newly discovered metal, so called by Lampadius, its discoverer.

Wolfram. Tungstate of iron and manganese.

Wolfranium. Tungstin.

Worm tub. Refrigeratory, or cooler. A tub containing a serpentine pewter pipe, in which the vapour is condensed by water put into the tub.

Wort. An infusion of malt, from which beer is made.

Woulfe's apparatus. A contrivance for distilling the mineral acids, and obtaining sundry gaseous substances, with little loss. It consists of a train of receivers, furnished with bent tubes, and safety pipes.

Y

Yeast. The frothy substance which collects on the surface of beer in fermentation. There are various ways recommended for preparing, what is called, artificial yeast. When a gallon of yeast is added to three barrels of wort, which is the proportion generally used, it acts upon the saccharine matter of the wort, and is partly decomposed; in consequence of which, fermentation takes place, and ale or beer is formed.

Yellow orpiment. Sulphuret of arsenic.

Yttria. An earth.

Yttrium. The metal of yttria. The base of yttria.

Z

Zaffre. Oxyde of cobalt.

Zero. In relation to thermometers, the zero of Fahrenheit's scale is the point at which the mercury stands, when immersed in a mixture of snow and common salt. Celsius' and Reaumer's thermometers have their zero at the freezing point, between which and the boiling point is eighty degrees.

Zinc. Spelter. A metal.

Zirconia. An earth.

Zirconium. The undecomposeable base of zirconia. A metal.

Zumates. Salts formed by the union of zumic acid and different bases.

Zumic acid. Nancetic acid. An acid obtained from rice.

THE END.

ERRATA.

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